

REMARKS

Claims 39-61 are currently pending. By this Response, claims 39 and 52 have been amended. Applicants respectfully submit that no new matter has been added by this amendment. Therefore claims 39-61 remain at issue in this Application.

Rejection of Claims Under §102

In paragraph 5 of the Office Action, the Examiner has rejected claims 52-54, 56, 57, 59, and 60 under 35 U.S.C. §102(b) as being anticipated by Dummermuth (U.S. Patent No. 6,073,053). Applicants respectfully traverse this rejection.

In order for a reference to constitute a §102(b) bar to patentability, the reference must disclose each and every element of the claimed invention. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 U.S.P.Q. 781, 789 (Fed. Cir. 1983). The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention. *Ex Parte Levy*, 17 U.S.P.Q. 2d 1461 (BPAI 1990) (“it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference.”); *In re Lange*, 209 U.S.P.Q. 288 (CCPA 1981) (in order to anticipate, the reference must describe or disclose all of the limitations of the claims). It is well-settled law that the burden of establishing a *prima facie* case of anticipation resides with the Patent & Trademark Office. *Ex Parte Skinner*, 2 U.S.P.Q. 2d 1788 (BPAI 1986).

Claim 52, as amended herein, is directed towards a control system. Among other limitations, claim 52 requires “an output module operably coupled to the input module, the output module including a reflex function structured to produce a state signal in response to receiving the representative signal from the input module, the output module being structured to execute the reflex function without requiring an enablement signal from a controller.”

Dummermuth is directed towards industrial controllers for the real-time control of industrial processes and to an input/output card for providing a control response to certain signals from the industrial process. Dummermuth discloses an I/O module communicating with a

central processor wherein the I/O module has an output terminal to provide an electrical output to an industrial process. A logic circuit in the I/O module receives an enable signal from the central processor to produce the electrical output to the industrial process. (See Dummermuth, col. 2, lines 6-19). In another embodiment, Dummermuth recites that FIG. 3 discloses an I/O card that produces output signals to an industrial process without the delays of communicating over a backplane to a central processor. (Dummermuth, col. 3, lines 7-14) However, even in this embodiment, an enable signal from the central processor is transmitted before the output signal can be asserted. (Dummermuth, col. 5, lines 18-23). As a result, Dummermuth fails to disclose, teach or suggest “the output module being structured to execute the reflex function without requiring an enablement signal from a controller,” as required by claim 52.

Moreover, the Examiner has stated that, “[in] order to overcome the Dummermuth reference as applied under 35 USC 102(b), the Examiner suggests amending the claims to recite that the circuitry (or firmware) for performing the reflex function does not require an enablement signal from a controller (e.g., the reflex function is always enabled).” (See Office Action or June 15, 2005, ¶35). In view of the Examiner’s suggestion, Applicants have amended claim 52 in accordance with the Examiner’s suggestion.

As a result, Applicants respectfully submit that all the elements of claim 52 are not disclosed in Dummermuth. Moreover, claims 53, 54, 56, 57, 59, and 60 depend on claim 52 and include each of its limitations. Therefore, Applicants respectfully submit that claims 52-54, 56, 57, 59, and 60 are patentable over Dummermuth.

Rejection of Claims Under §103

In paragraph 15 of the Office Action, the Examiner has rejected claims 39-42, 44, 46, 47, 49, 50, and 55 as being unpatentable over Dummermuth in view of McLaughlin et al. (U.S. Patent No. 5,988,847). Applicants respectfully traverse this rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

combine reference teachings. See MPEP 2143.01. Second, there must be a reasonable expectation of success. See MPEP 2143.02. Finally, the prior art reference(s) must teach or suggest all of the claim limitations. See MPEP 2143.03. The teaching or suggestion to make the claimed combinations and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner bears the initial burden on factually supporting any *prima facie* conclusion of obviousness. See MPEP § 2142. In the present case, the Examiner failed to meet this burden.

Claim 39, as amended herein, is directed towards a control system. Among other limitations, claim 39 requires “an output module operably coupled to the input module, the output module including firmware configurable with a first reflex function at a first time and a second reflex function at a second time, the first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller.”

As set forth above with respect to claim 52, Dummermuth requires input from a controller such that during operation, a logic circuit within the I/O module receives an enable signal from the central processor and a second electrical input to produce the electrical output upon assertion of the enable signal. (Col. 2, lines 11-15). As admitted by the Examiner, Dummermuth does not disclose, teach or suggest a first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller. (Office Action of June 15, 2005, ¶35). McLaughlin is directed towards a system and method for controlling processes of a process facility. Similar to Dummermuth, McLaughlin also fails to disclose, teach, or suggest a first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller, as required by claim 39. As such, Dummermuth and McLaughlin, alone or in combination, fail to disclose, teach or suggest all of the limitations of claim 39.

Accordingly, Applicants respectfully submit that all of the elements of claim 39 are not in Dummermuth and McLaughlin. Moreover, claims 40-42, 44, 46, 47, 49, and 50 depend on claim

39 and include each of its limitations. Therefore, Applicants respectfully submit that claims 39-42, 44, 46, 47, 49, and 50 are patentable over Dummermuth in view of McLaughin.

Additionally, Applicants respectfully submit that claim 55 is also patentable over Dummermuth in view of McLaughin. As set forth above, Dummermuth and McLaughlin, alone or in combination, fail to disclose, teach or suggest a first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller, as required by claim 52. Claim 55 depends on claim 52 and includes all of its limitations. As such, Applicants respectfully submit that claim 55 is patentable over Dummermuth in view of McLaughin.

In paragraph 27, the Examiner has rejected claims 43, 45, 48, and 51 as being unpatentable over Dummermuth and McLaughin in view of Edwards et al. (U.S. Patent No. 5,938,754). In view of the foregoing remarks, Applicants submit that claim 39 is patentable over Dummermuth and McLaughlin. Edwards is directed towards dual-connector cable for connecting a computer to a serial instrumentation bus and is only cited for disclosing the use of CANopen protocol in industrial manufacturing applications. However, Edwards fails to disclose, teach or suggest a first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller, as required by claim 39. Claims 43, 45, 48, and 51 depend on claim 39 and include all of its limitations. Therefore, Applicants respectfully submit that claims 43, 45, 48, and 51 are patentable over Dummermuth and McLaughin in view of Edwards.

In paragraph 32, the Examiner has rejected claims 58 and 61 as being unpatentable over Dummermuth in view of Edwards. In view of the foregoing remarks, Applicants submit that claim 52 is patentable over Dummermuth. Edwards is cited for disclosing the use of CANopen protocol in industrial manufacturing applications. However, Edwards fails to disclose, teach or suggest a first reflex function being structured to produce a state signal in response to receiving the representative signal from the input module and without requiring an enablement signal from a controller, as required by claim 52. Claims 58 and 61 depend on claim 52 and include all of its

limitations. Therefore, Applicant respectfully submits that claims 58 and 61 are patentable over Dummermuth in view of Edwards.

In paragraph 36, the Examiner states that “even if the claims did particularly recite that the firmware does not receive an enablement signal from a controller,” such a “modification would have been obvious to one of ordinary skill in the art at the time of the invention.” Specifically, the Examiner contends that the enablement signal acts only as an additional safety measure against inadvertently activating the reflex function and that the invention could easily be configured to function without it. (See Office Action of June 15, 2005, ¶36). Applicants respectfully disagree because Dummermuth requires an enablement signal from the central processor to the I/O module.

Dummermuth discloses the enable signal from the central processor is required because the control processor establishes general conditions for the occurrence of the output by enabling the reflex response. (Dummermuth, col. 2, lines 2-5). In this manner, the logic circuit of in the I/O device of Dummermuth could not be easily configured to function without the enable signal because the control processor would not be controlling the conditions of the occurrence of the output, as suggested by the Examiner. (See Office Action of June 15, 2005, ¶36). Accordingly, Dummermuth would not work as intended if modified as suggested by the Examiner.

As noted above, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). If a proposal for modifying the prior art in an effort to attain the claimed invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. *In re Fitch*, 972 F.2d 1260, 1265 n.12, 23 USPQ2d 1780, 1783 n.12 (Fed. Cir. 1992). Here, there is absolutely no incentive in the cited reference to modify the reference in the manner suggested by the Examiner because the control processor would no longer function to control the conditions of the occurrence of the output.

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Therefore, Applicants respectfully submit that claim 39 and claim 52 are not obvious modifications of Dummermuth. As such, Applicants respectfully submit that claim 39 and claim 52 are patentable over Dummermuth.

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CONCLUSION

In light of the foregoing Amendments and Remarks, Applicants respectfully submit that claims 39-61 are in condition for allowance. The Examiner is invited to contact the undersigned if there are any questions concerning this Response.

Respectfully submitted,

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By: Richard C. Himelhoch

Richard C. Himelhoch, Reg. No. 35,544
Wallenstein Wagner & Rockey, Ltd.
311 South Wacker Drive, 53rd Floor
Chicago, Illinois 60606-6630
312.554.3300

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Lynn A. Liebergen 227930